

## PUBLICLY FUNDED PROMOTIONAL PROGRAMS FOR FRUIT AND VEGETABLE COMMODITIES: A NATIONAL SURVEY OF STATE DEPARTMENTS OF AGRICULTURE

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**Abstract.** The purpose of this study was twofold: first, to identify marketing development programs listed on websites of State Departments of Agriculture; and second, to conduct a personalized telephone survey targeting state agricultural marketing directors in an effort to compare and evaluate the scope and effectiveness of marketing programs. A systematic review of the Internet using both the Yahoo! search engine and the National Association of State Departments of Agriculture portal was implemented to locate web addresses of the State Departments of Agriculture for 48 of the 50 states (two states did not offer an Internet site). One hundred eleven (111) unique market development programs were identified. These marketing tools were classified according to their intended audiences, and include four distinct 'marketplaces': Consumer and Domestic Trade, International Trade, and the Internet. The authors' intentions are to adapt those marketing program strategies recognized as effective to specialty fruits and vegetables grown in southern Florida.

American consumers flounder in a sea of food marketing blitzes and medical news updates: "National Five a Day Week, September 9-15, 2001" (Produce for Better Health Foundation, 2001); "'The Best Broccoli' Has High Levels of Cancer-Preventing Compound" (Webb, 2001); "Leafy Greens and Citrus Cut Stroke Risk" (ABCNEWS.com, 2000); "New Diet Plan Can Help You Defy Old Age" (ABCNEWS.com, 2001); "Obesity Greater Health Risk Than Smoking" ("Obesity," 2001). This deluge of confounding information is further illustrated by headlines in trade publications such as: "Vegetable Growers: NAFTA Killing Producers" (Gillette, 2000) and "NAFTA Swells U.S. Horticultural Product Profits" (Rosa, 1999).

Fact or fiction? Perhaps a bit of both. Regardless of perception or reality, the fact remains that southern Florida produce growers are under pressure to produce cheaper commodities without harming the environment, while simultaneously fending off Mother Nature and placating subscribers of the suburban spread mentality. Consolidation within marketing channels is occurring at an alarming rate, where 27% of grocery store sales are captured by the top four retailers. Large volume shippers are taking advantage of economies of scale and scope to lock in the majority of retail business from large superstore chains, citing the potential for lower procurement, marketing, and distribution costs as motivating factors (Calvin, 2001).

In many respects, the trends in food expenditures and consumption appear to favor southern Florida producers.

United States consumers purchased \$40.6 billion of fresh produce items in grocery stores in 1999 (Cook, 1999). Supermarket and supercenter produce department share of sales reached 9.5% in 1997, with supercenters gaining 17.2% of produce share of profits that same year (Kaufman, 2000). U.S. consumption of fruits and vegetables increased by 18% between 1986 and 1999 (Calvin, 2001); consumption of non-citrus fruit leaped from 1.9 lbs/capita in 1976 to 4.4 lbs/capita in 1999 (Cook, 1999). Improved quality, increased variety, and year-round availability via world trade have contributed to increases in produce consumption (Kaufman, 2000). Several specialty crops are grown exclusively in the southern part of Florida, and the numbers of consumers preferring these items are on the rise across the country. This is typified by the 1000% escalation of mango consumption from 1970 to 1994 (The Retail Food Industry Center, 1998). So why are the southern Florida produce growers struggling when things look so good?

This study focuses on an extremely powerful produce marketing solution—produce consumer market knowledge. "As grower margins shrink in the face of increasing retail and middle-market concentration, efficiency in mounting promotional programs becomes more important." (Richards, 2000). The complexity of this vital aspect of agribusiness is revealed in the primary evaluation of the National Cancer Institute's 5 A Day Program: "... [to] seek to prevent the further growth of "dietary helplessness," to help the public differentiate between good and poor information, to provide a larger context for personal dietary decisions, and to help clarify the confusion engendered in the message environment. In the dense, fragmented, and competitive message environment surrounding diet and behavior, there is a need for reliable and credible sources of information" (National Cancer Institute, 2001).

Produce growers are no different from any other entity on the supply side of the equation. They must continually strive to create, sustain and revise consumer-centric production and marketing strategies. Grasping consumption patterns is complicated by a marketplace full of consumers who refuse to be categorized and who are different types of shoppers at different times of day or during different parts of the week (Urbanski, 2000). Models built to explore consumers' demands for produce have found that advertising and education are equally important, particularly for nontraditional varieties. All newly introduced specialty varieties exhibit traits, such as price-inelastic demand, high income elasticity, and high persistence of promotion expenditure. All these factors provide an inherent conduciveness to highly effective promotion (Richards, 1997). Several themes have been identified which affect fruit and vegetable consumption, including: price and season, food selection and preparation skills, preparation convenience/time, family influences, experimentation, taste and sensory factors, perishability, vitamins and health effects, and origin (Uetrecht, 1999).

Peter Drucker (1959) coined the term 'knowledge worker' in his book *Landmarks of Tomorrow*, and the generic description of such a worker is his inherent ability to take his knowledge with him, allowing this key economic resource to

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be dispersed freely and without geographic boundary. A contributing factor to this barrier-free information environment is the technology that comprises the Internet. The advent of e-commerce has affected agribusinesses from Phillip Morris down to the smallest specialty growers. Millions of business-to-consumer transactions have occurred in ever-increasing numbers; Forrester analyst Matt Sanders predicts that agriculture-related e-business will reach \$211 billion in online trade by 2004, of which 74% will represent private, collaborative online trade taking place between existing business partners, such as farmers and food processors (Memishi, 2001).

The state Departments of Agriculture are placing marketing programs on their Internet sites to provide information to states' producers, attempting to gain maximum positive exposure for state-produced agricultural products. In this study, we investigate those marketing programs exclusively listed on the websites of state Departments of Agriculture, which have been developed to expand consumer awareness of (and thus, demand for) state-specific commodities.

### Methodology

The methodological approach of this project was twofold; first, a data set was developed consisting of all marketing programs displayed on the websites of state Departments of Agriculture. Second, a personalized telephone survey targeting state agricultural marketing directors was carried out in order to analyze the effectiveness of the identified programs. The intention of the project was to adapt those marketing programs identified as effective to specialty fruits and vegetables and to other states or growing regions.

State agricultural marketing departments typically focus on the types of promotional activities that will successfully reach consumers and producers. Personnel are provided by state marketing departments in order to facilitate marketing promotions through hands-on education, evaluation, and business support. Continual supervision, direction, and revision are required for marketing materials to reach the appropriate market channels and participants. The marketing process entails connecting the promotional tool with the appropriate market channel participant.

The goal of the telephone survey was to subjectively determine the costs and efficacy of the marketing tools itemized on the websites. The interviewer referred to a list of programs identified on that particular state's website when asking the respondent specific discussion questions. The telephone survey responses were recorded in database software to allow for relational synopses. Further analysis was completed on computer spreadsheets. Frequencies of marketing programs and comparative rankings suggested by the survey respondents were compiled and sorted.

The research results are described beginning with a breakdown of the promotional activities mentioned on the states' individual websites, and are followed by the telephone survey responses. In conclusion, many identified marketing programs are offered that may be effective options for growers of southern Florida fruits and vegetables.

### Results and Discussion

*Website Survey.* A systematic review of the Internet using both the Yahoo! search engine and the National Association of State Departments of Agriculture portal was implemented to locate the web addresses of the state Departments of Agri-

culture for 48 of the 50 states (two states did not offer an Internet site). The Internet is the newest market arena available, targeting online consumers and producers and allowing for dissemination of marketing programs across consumer and trade audiences.

One hundred eleven individual promotional programs were gleaned from the 48 state websites. These programs were initially grouped as follows: domestic consumer-oriented promotions were most common, with 44 unique marketing programs described on at least one of the 48 state agricultural websites; 34 domestic trade programs were geared at improving market knowledge of producers; international trade marketing activities accounted for 20 individual programs; and Internet-focused promotional efforts followed with 13 total programs (Table 1).

As a representative state, Florida exemplifies some of the prominent findings of the website survey. The Florida Department of Agriculture and Consumer Services (FDACS) offered more programs than any other state in two market places, adopting 38 (86% of total programs offered nationwide) consumer programs and 9 (69%) Internet-oriented market development tools on their website. A state with extensive agricultural production diversity, Florida's website demonstrates an equally diverse range of marketing programs. Florida also ranked second in the number of programs in the domestic trade market place, with 25 out of 34 (or 74%) possible programs. Florida's international marketing support was limited to just seven, or a mere 35%, of all available programs, which may reflect the relatively minute export activities at the state's producer level.

A total of 13 marketing programs were focused on reaching Internet audiences. The objective of this type of promotional effort is the expansion of economically feasible markets via the Internet (Table 2). Ten states have recognized this marketing medium in the form of online classified advertisements for jobs, products, supplies, etc., and nine states have posted recipes on the ubiquitous Net. Seven states offer photo galleries of products, farms, fair activities, and a menagerie of people and places involved in agriculture. Internet malls allow searches by product or company in addition to providing for online consumer transactions of products like magazines, gift cards, specialty foods, and artwork. Six sites present virtual tours of farmstead production and operations, and another six reveal live views of both farmer's markets and their wares on location throughout the state. Four sites maintain email lists of marketing personnel, producers, retailers, wholesalers, and international contacts.

Table 1. Market development programs utilized by state Departments of Agriculture, U.S. and Florida.

| Market        | U.S.<br>Total programs | Market development programs<br>adopted by Florida Department of<br>Agriculture and Consumer Services<br>(FDACS) |                                   |
|---------------|------------------------|---|-----------------------------------|
|               |                        | Total programs  | Percent of total<br>U.S. programs |
| Consumer      | 44                     | 38  | 86%                               |
| Trade         | 34                     | 25  | 74%                               |
| International | 20                     | 7   | 35%                               |
| Internet      | 13                     | 9   | 69%                               |
| Total         | 111                    | 79  | 71%                               |

Table 2. State websites with internet promotion activities.

| Type of internet promotion     | Number of state websites with internet promotion | Percent of state websites with internet promotion |
|--------------------------------|--|---|
| Online classifieds             | 10   | 21%   |
| Recipes/cookbooks              | 9  | 19%   |
| Photo galleries                | 7  | 15%   |
| Internet malls                 | 6  | 13%   |
| Virtual farmers' markets       | 6  | 13%   |
| Virtual tours                  | 6  | 13%   |
| Agribusiness development       | 5  | 10%   |
| Literature                     | 5  | 10%   |
| Email lists                    | 4  | 8%  |
| Seminars/workshops             | 4  | 8%  |
| Website development assistance | 3  | 6%  |
| Consultants                    | 2  | 4%  |
| Online trading systems         | 2  | 4%  |

The people responsible for carrying out the personalized component of Internet promotions were also identified. Ten percent of all states have individuals dedicated to the preparation of e-commerce business plans and implementation routes to producers. Another four states involve their staff in the coordination and content design of seminars, which assist in the preparation of agriculture-related Internet marketing plans and aim to convince channel participants of the value and functionality of Internet advertising. Actual website development incorporates the technical details of building a website; for instance, the state of North Dakota has identified an organization, selected through an open bidding process, which will build a customized website for Pride of Dakota program members. This package, priced at \$350, includes an Internet site with an individualized URL address, member email lists, listings in major search engines, up to ten page links, and a link to the ShopND North Dakota Internet Mall website, all hosted free of charge by the state's agriculture department for the first year. Two states offer trained e-business consultants, available to teach and inform Internet neophytes of the mysteries and potential of Net agri-marketing. The final category of Internet marketing programs is the provision and maintenance of online trading systems, which offer an electronic competitive bidding process option for two states' producers.

The majority of domestic trade market development activities found on state agri-marketing websites emphasize producers' information requirements (Table 3). Better than three-fourths of all state sites describe laws and regulatory statutes (85%) applicable to production and marketing, dispense market information (83%), provide statistics and facts (79%) concerning demand and supply conditions, and contain directories (77%) of input suppliers, wholesalers and retailers for various commodities. Fifty-four percent of states prepare market bulletins that act as long-term, trusted sources of professional advice and the latest in market knowledge, and are now readily available online; similar efforts include printed literature (23), company databases (12), and newspapers (6). Twenty-four states describe new uses, providing technical assistance in economic diversification such as organic labeling; another example of potential profitability is represented by thirteen states, which present descriptions of non-food products that are derived from raw items produced within the state, such as ethanol fuel and wool clothing items. The growing importance of the environment in agriculture at the trade level is evidenced by the 40% of states actively in-

Table 3. State websites with domestic trade promotion activities.

| Type of domestic trade promotion | Number of state websites with domestic trade promotion | Percent of state websites with domestic trade promotion |
|----------------------------------|--|---|
| Laws/regulations                 | 41   | 85%   |
| Market information               | 40   | 83%   |
| Statistics/facts                 | 38   | 79%   |
| Directories                      | 37   | 77%   |
| Trade shows                      | 27   | 56%   |
| Market bulletins                 | 26   | 54%   |
| Agribusiness development         | 25   | 53%   |
| New uses                         | 24   | 50%   |
| Standards/quality /safety        | 23   | 48%   |
| Literature                       | 23   | 48%   |
| Conservation                     | 19   | 40%   |
| Producer funding                 | 21   | 44%   |
| Seminars/workshops               | 19   | 40%   |
| Market analysis                  | 19   | 40%   |
| Farmland preservation            | 19   | 40%   |
| Corporate alliances              | 18   | 38%   |
| Consultants                      | 18   | 38%   |
| Low interest loans               | 17   | 35%   |
| Councils                         | 16   | 33%   |
| Marketing orders/boards          | 15   | 31%   |
| Alternative farming enterprises  | 14   | 29%   |
| Nonfood products                 | 13   | 27%   |
| Company Database                 | 12   | 25%   |
| Restaurant alliances             | 8  | 17%   |
| Coordinators                     | 8  | 17%   |
| Packaging critique               | 7  | 15%   |
| Matching funds                   | 7  | 15%   |
| Food service promotion           | 7  | 15%   |
| Expos                            | 7  | 15%   |
| Newspapers                       | 6  | 13%   |
| Chef mentors                     | 6  | 13%   |
| Videos                           | 4  | 8%  |
| Advertising discounts            | 2  | 4%  |
| Joint venture                    | 1  | 2%  |

involved in both conservation and farmland preservation; in addition to these efforts, 29% are pursuing alternative farming techniques designed to minimize degradation and extraneous chemical impact on water and soil. Four states prepare videotapes, such as the "Florida's Horses: \$6 Billion Strong," available for new and existing producers or suppliers as a market education source.

Trade shows and workshops (27) are a vital component of the agribusiness development tools (25) created by professional educators employed by the state ag-marketing departments. Personnel are trained to compare standards and quality inspections in 48% of states. Professional market analyses specific to states' commodities are generated by staff members in 19 states. Experienced individuals are available for advising councils (33%) and marketing orders or boards (31%), which function to allow commodity producers and/or handlers to collectively create activities that deal with issues including marketing programs and funding. Corporate alliances (18), restaurant alliances (8), expos (7), and joint ventures (1) all put into action the specialized knowledge and skill sets necessary for producers to gain market footholds.

Nineteen states sponsor seminars, 18 provide consultants, eight support coordinators, and seven instruct packaging critique specialists, acting in a combined effort to reach produc-

ers with staff that can teach and train producers in the most recent marketing techniques. Producer funding (21), low interest loan access (17), matching funds availability (7), and allowance for advertising discounts (2) are packaged by financial advisors to meet individual producer requirements. Chef mentors (6) work with producers to learn new commodity preparations and develop new recipes that emphasize the products' virtues, and seven states use food service promotional events to connect industry professionals and agribusinesses.

International promotions are characterized by efforts to reduce and minimize the resources and learning curve costs required by trade participants to learn and manage agri-export business ventures (Table 4). Fifty two percent of states explain the complicated laws and regulatory requirements for exporting products, and vital statistics and facts are listed on 44% of state international marketing sites. Trade leads (23), trade missions (20), reverse trade missions (19), foreign delegations (14), and trade visits (14) are scheduled and performed as state producers pursue the feasible profitability of foreign sales. Eighteen states publish directories of potential contacts and market locations, and another 12 supply printed literature. The Market Access Program (10) offered conjointly with Foreign Agricultural Services provides cost-share funds to nearly 800 U.S. companies, cooperatives and trade associations enabling overseas promotion. Bilingual materials (7) and bilingual advertisements (6) are supplied and distributed as efforts to communicate in foreign markets increase. One state developed an educational videotape for statewide distribution.

A common thread of bulk commodity production was persistent in the states that maintained international marketing support personnel. Described as marketing program specialists, these individuals consisted of trade show organizers (21), consultants (12), export guides (8) and coordinators (7). Agribusiness development assistance and seminars focusing on foreign demand were represented on 35% and 33% of state sites, respectively. Eleven states provide foreign office locations, staffed by individuals well versed in the states' com-

modities and supply schedules, whom also demonstrate proficiency in the language and cultural practices of individual countries.

Connecting consumers with products has the greatest potential for financial impact, should states successfully create and promote a state generic brand identity. Among the consumer-focused promotions, marketing activities are divided into three categories, which include paid advertising, publicity/public relations (usually considered 'free'), and sales promotions, which are anything beyond publicity and packaging that sells the product. People involved with consumer promotions are positioned as salespersons, and act as the fourth component of domestic consumer marketplaces. State agri-marketing departments are attempting to impress domestic consumers with the notion that state-specific products are of higher value and superior quality, while simultaneously informing larger numbers of customers of seasonality, availability, and variety (Table 5).

Personal selling on a one-to-one basis is the most recognized form of producer-to-consumer marketing, and is accomplished at annual state fairs (77% of states), local farmers' markets (63%), food and agriculture festivals (33%), food expos (19%), and ethnic-oriented festivals (17%). The 53rd Annual Alice in Dairyland competition, in which the state of Wisconsin selects a spokesperson for Wisconsin dairy products, serves as an example of the purpose of speakers bureaus that are managed in nine states. Profiting from the rising interest among the suburban populace to enjoy hands-on nature experiences is accomplished in eight states with rural tourism guides. The existence of 24/7 citizen information hotlines in five states allows domestic marketing personnel to instantly connect with consumers searching for details of local public or animal health threats advertised in large-scale media. A single state assists producer-to-consumer contacts using qualified coordinators.

The process of incorporating publicity into consumer outreach programs is accomplished through several venues. Agribusiness-related statistics and fact sheets are provided by 52% of the states, presenting detailed information on production and harvesting techniques and time frames in lay terms. To assist states' consumers' abilities to locate and purchase fresh-grown items, directories (54%) and buyer's guides (46%) have been developed, complete with address and telephone information of current producers. Forty-two percent of states take advantage of the national Ag in the Classroom program, and another 31% promote the Agri-Literacy campaign, both of which stimulate public school and other educators by providing classroom materials and teacher workshops. Twenty-three percent of states have taken the lead in capitalizing on the wave of interest in organic food and non-food products, explaining these and other new uses on their websites. Although time-tested and ever popular amongst school-age children and their families, only nine states mention sponsorship of Future Farmers of America and 4-H programs; this may be a result of the diminishing numbers of rural communities capable of housing the livestock required for the projects. A range of state welfare improvements are motivated by community nutritional needs, and consist of the following: participation in the Women-Infants-Children programs (9 states); low income (8) food provisions; fresh produce distribution for seniors (7); balanced school meals (5); food donation (5); emergency food (3) collections; and one state promotes a glean program. Other public relations projects include

Table 4. State websites with international promotion activities.

| Type of international promotion | Number of state websites with international promotion | Percent of state websites with international promotion |
|---------------------------------|---|--|
| Laws/regulations                | 25  | 52%  |
| Trade leads                     | 23  | 48%  |
| Statistics/facts                | 21  | 44%  |
| Trade shows                     | 21  | 44%  |
| Trade missions                  | 20  | 42%  |
| Reverse trade mission           | 19  | 40%  |
| Directories                     | 18  | 38%  |
| Agribusiness development        | 17  | 35%  |
| Seminars and workshops          | 16  | 33%  |
| Trade visits                    | 14  | 29%  |
| Foreign delegations             | 14  | 29%  |
| Literature                      | 12  | 25%  |
| Consultants                     | 12  | 25%  |
| Foreign offices                 | 11  | 23%  |
| Market access program           | 10  | 21%  |
| Export guides                   | 8   | 17%  |
| Bilingual materials             | 7   | 15%  |
| Coordinators                    | 7   | 15%  |
| Bilingual advertisements        | 6   | 13%  |
| Videos                          | 1   | 2%   |

Table 5. State websites with consumer promotion activities.

| Type of consumer promotion      | Number of state websites with consumer promotion | Percent of state websites with consumer promotion |
|---------------------------------|--|---|
| <b>Personal selling</b>         |  |   |
| Fairs                           | 37   | 77%   |
| Farmers markets                 | 30   | 63%   |
| Food and agriculture festivals  | 16   | 33%   |
| Expos                           | 9  | 19%   |
| Speakers bureau                 | 9  | 19%   |
| Ethnic festivals                | 8  | 17%   |
| Rural tourism guides            | 8  | 17%   |
| Citizen info hotline            | 5  | 10%   |
| Coordinators                    | 1  | 2%  |
| <b>Publicity</b>                |  |   |
| Statistics/facts                | 35   | 73%   |
| Directories                     | 26   | 54%   |
| Buyers guides                   | 22   | 46%   |
| Ag in the Classroom             | 20   | 42%   |
| Agri Literacy                   | 15   | 31%   |
| New uses (organic, fuel, etc.)  | 11   | 23%   |
| FFA/4-H sponsorships            | 9  | 19%   |
| Women—infant—children           | 9  | 19%   |
| Food donation/relief            | 9  | 19%   |
| Mobile display                  | 8  | 17%   |
| Low income                      | 8  | 17%   |
| Seniors                         | 7  | 15%   |
| School meals                    | 5  | 10%   |
| Community gardens               | 4  | 8%  |
| Youth institute                 | 3  | 6%  |
| Emergency food                  | 3  | 6%  |
| Gleaning program                | 1  | 2%  |
| <b>Sales promotion</b>          |  |   |
| Logos                           | 31   | 65%   |
| Nutritional standards           | 13   | 27%   |
| Point of purchase materials     | 13   | 27%   |
| "Five-a-Day For Better Health"  | 9  | 19%   |
| Cookbooks                       | 7  | 15%   |
| Coupons                         | 6  | 13%   |
| Shelftalkers                    | 5  | 10%   |
| Videos                          | 5  | 10%   |
| Fitness/health                  | 3  | 6%  |
| <b>Advertising</b>              |  |   |
| Literature                      | 16   | 33%   |
| Calendars                       | 15   | 31%   |
| Newspapers                      | 8  | 17%   |
| Radio                           | 7  | 15%   |
| Television                      | 5  | 10%   |
| Bilingual materials             | 5  | 10%   |
| Bilingual advertisements        | 3  | 6%  |
| Billboards                      | 2  | 4%  |
| Agriculture directional signage | 2  | 4%  |

mobile display vehicles, which are operated in eight states; four states promote community garden establishment; and three states co-sponsor youth institutes.

Logo programs, positioned in 65% of states, are the second most popular program targeted towards domestic consumers. As part of the sales promotion process, these programs use branding identification techniques and materials that build on positive associations specific to the state's products. Twenty-seven percent of states provide and distribute nutritional standards and point of purchase materials to

retail outlets. The popular "5 a Day for Better Health" campaign, funded by the National Cancer Institute's \$10 million annual budget since 1991 (NCI website, 2001), has been adopted by nine states, primarily those harvesting fresh fruits and vegetables. Prompted by consumer interest in establishing healthier eating habits, seven states prepare cookbooks featuring state-produced items. The relationship between fitness and health improvements to appropriate diet has prompted three states to attempt to convince consumers of their products' attributes and values in this area. Other state-specific promotional expenditures are coupons (6), informational videos (5), and shelftalkers (5), aimed at driving sales upward and influencing demand at a local level.

States utilize several traditional advertising avenues, subject to individual marketing budget limitations. Literature printed in layman's terms, and production and harvest calendars, are made available in 33% and 31% of states, respectively. Local newspaper (17%) space and radio (15%) announcements are purchased in an effort to reach large-scale statewide audiences, and a mere five states have ventured into purchasing television advertisement time. In recognition of growing ethnic diversity, bilingual materials (5) and bilingual advertisements (3) are circulated into states' populations. Two states have erected billboard presentations, and another duo provide agricultural directional signage, placards meant to inform passer-by of the location and type of farming activities.

*Telephone Survey.* After identification and compilation of all programs in use, twenty-three phone surveys were completed from an initial sample size of 48 state website marketing departments. A minimum of four telephone attempts (or emailed survey outlines, if requested) were attempted to reach the contact person specified on the state's website. An effort was made to speak with the director of the marketing program as identified on the website, and accounted for eight of the 23 respondents. The remaining 15 respondents were either marketing specialists replying on their directors' behalf, or department personnel familiar with the marketing programs.

The interviewer referred to a list of programs identified on that particular state's website when asking the respondent specific discussion questions. Interviews ranged in length from 10 min to 1.25 h, varying according to the number of state programs discussed and the amount of detail offered by the participants. Emphasis was focused on obtaining quantitative program parameters, including: number of years in effect, annual budget allocations, funding sources, and existence of formal evaluation processes. Respondents were asked to give evaluations of programs based on a generic weighting scale over a range of 1 to 10, where a score of 10 represented the most effective programs; this allowed for the collection of subjective opinions of comparative success rates.

Results revealed that domestic trade-focused marketing programs are the most effective overall, and generally distinguished these efforts as "informative in nature" and "adequately funded" to support continued existence. At least half of all states' websites incorporated the Top 10 domestic trade programs (Table 6). Respondents defined beneficiaries of marketing projects as the people facing various obstacles in agriculture, in most cases agricultural producers. The success of trade-oriented programs was measured in producer feedback and perceived increases in commodity sales over time, as well as their typically predominant location on department websites. Tables 7 and 8 list the Top 10 domestic trade pro-

Table 6. Top 10 domestic trade programs as percent of states' use.

| Top 10 trade programs    | Percent of state using program |
|--------------------------|--------------------------------|
| Laws/regulations         | 88%                            |
| Market information       | 88%                            |
| Statistics/facts         | 83%                            |
| Directories              | 80%                            |
| Trade shows              | 60%                            |
| Market bulletins         | 56%                            |
| New uses                 | 52%                            |
| Standards/quality/safety | 52%                            |
| Producer funding         | 52%                            |
| Conservation             | 50%                            |

grams, sorting them by both average efficacy ratings and average number of years in effect, as reported by respondents.

While domestic trade effectiveness dominated the survey respondents' recollection efforts, programs aimed at domestic consumers elicited several favorable reviews (Tables 9 and 10). Greater variation in adoption percentage rates of Top 10 consumer-focused programs is apparent, perhaps due to the wider ranges of marketing options or consumer demographics (Table 11).

Many of the interviewed personnel did not have access to the information requested; several had difficulty recognizing the marketing programs themselves. A dearth of responses skewed the weighted averages of program effectiveness ratings, resulting in the inability to pinpoint marketing programs that dominated in each of the four marketplaces; in particular, the Top 10 programs ranked by average efficacy ratings rarely agreed with the Top 10 programs ranked by average years in effect, and deviate even further from the number and percent of websites carrying each program.

Interestingly, in most cases the data suggest state size did not influence funding levels or marketing program effectiveness ratings; instead, type, amount, and duration of monetary support appeared to be dependent upon the actual type of commodities in production. Respondents indicated that budget allotments and the level of discretionary power available to the marketing departments determined the actual magnitude and variety of programs.

Several factors determine the quality and quantity of marketing programs adopted by a state, including geography, importance of agriculture to the state's economy, budget allocations, crop diversity, state demographics, and historical perspectives. States producing great quantities of bulk com-

Table 8. Top 10 domestic trade programs sorted by average years in effect.

| Top 10 trade programs         | Average years in effect* |
|-------------------------------|--------------------------|
| Joint venture                 | 100.00 (n = 1)           |
| Laws and regulations          | 90.0 (n = 5)             |
| Statistics and facts          | 80.0 (n = 4)             |
| Conservation                  | 75.0 (n = 2)             |
| Market bulletins              | 52.3 (n = 4)             |
| Standards, quality and safety | 51.7 (n = 3)             |
| Producer funding              | 37.5 (n = 2)             |
| Consultants                   | 35.0 (n = 2)             |
| Market information            | 30.3 (n = 7)             |
| Agribusiness development      | 30.0 (n = 1)             |

\*n = total number of responses listed in quotes from sample size of 23 respondents.

modities, such as corn, wheat, and soybeans, traditionally have large, established programs in place with hefty budgets that tend to emphasize strong international trade components. States with diversified production offered a wider range of activities geared toward early-stage growth through market development and expansion, targeting specific programs toward potential buyers (industries) on a relatively smaller scale.

## Conclusions

Southern Florida fruit and vegetable producers should define successful marketing as a continuous effort aimed at influencing consumer choice, recognizing that this effort will potentially consume an enormous amount of resources well in advance of visible results to the bottom line. In stark contrast to hypothesized results, the majority of this research revealed limited achievement of realistic marketing program effectiveness. Effective marketing is a function of many variables: "... because markets are dynamic ... ongoing market research is the *sine qua non* [an essential condition or element; an indispensable thing (Soukanov et al., 1996)] of effective program management." (Myrland, 2000). While the 111 programs observed on the websites cover the entire spectrum of feasible market avenues, the inability of respondents to confidently rate each program, a persistent lack of budget awareness, unfamiliarity with the program or its duration, and finally, the near-nonexistent objective analyses of program effectiveness suggest numerous opportunities for improvement in program implementation and planning.

Table 7. Top 10 domestic trade programs sorted by average efficacy ratings.

| Top 10 trade programs        | Average efficacy ratings* |
|------------------------------|---------------------------|
| Agribusiness development     | 10.0 (n = 1)              |
| Conservation                 | 9.0 (n = 1)               |
| Farmland preservation        | 9.0 (n = 1)               |
| Seminar and workshops        | 9.0 (n = 1)               |
| Company database             | 8.5 (n = 2)               |
| Videos                       | 8.5 (n = 2)               |
| Market information           | 8.1 (n = 7)               |
| Alternative farm enterprises | 8.0 (n = 1)               |
| Consultants                  | 8.0 (n = 3)               |
| Low interest loans           | 8.0 (n = 1)               |

\*n = total number of responses listed in quotes from sample size of 23 respondents.

Table 9. Top 10 consumer programs sorted by average efficacy ratings.

| Top 10 consumer programs    | Average efficacy ratings* |
|-----------------------------|---------------------------|
| Nutritional advertisements  | 9.0 (n = 1)               |
| School meals                | 9.0 (n = 1)               |
| Seniors                     | 9.0 (n = 1)               |
| Youth institute             | 8.5 (n = 2)               |
| Ag in the Classroom         | 8.3 (n = 3)               |
| Buyers guides               | 8.0 (n = 2)               |
| Directories                 | 7.7 (n = 3)               |
| Calendars                   | 7.5 (n = 2)               |
| Citizen information hotline | 7.5 (n = 2)               |
| Statistics and facts        | 7.5 (n = 6)               |

\*n = total number of responses listed in quotes from sample size of 23 respondents.



Table 10. Top 10 consumer programs sorted by average years in effect.

| Top 10 consumer programs    | Average years in effect* |
|-----------------------------|--------------------------|
| Nutritional advertisements  | 55.0 (n = 2)             |
| School meals                | 45.0 (n = 1)             |
| Fairs                       | 44.1 (n = 7)             |
| Statistics and facts        | 40.3 (n = 4)             |
| Youth institute             | 29.0 (n = 1)             |
| Farmers markets             | 23.0 (n = 7)             |
| Emergency food              | 21.0 (n = 1)             |
| Low income                  | 21.0 (n = 1)             |
| Citizen information hotline | 15.0 (n = 2)             |
| Literature                  | 14.0 (n = 3)             |

\*n = total number of responses listed in quotes from sample size of 23 respondents.

The state of Florida FDACS marketing department sponsors 79 programs available for producers' immediate consideration, several of which were recognized as effective on an individual case basis. Suggested Florida state-sponsored trade programs readily available for fruit and vegetable growers include farmers' market directories, producer-supplier directories, market bulletins, and literature. Inclusion of regional producers into these existing marketing projects requires dedicated time commitments on the part of the growers to keep this material current on the state website, yet those that take advantage of these opportunities could earn substantial payoffs for minimal cash inputs. For example, Larry Aldag, from the Illinois Department of Agriculture, Bureau of Marketing and Promotion, was contacted by a regional produce buyer for a WalMart distribution center, requesting a list of producers that would be interested in supplying Illinois-grown fresh fruits and vegetables to 39 Wal-Mart Supercenters in Illinois and surrounding states ("WAL-MART," 1998).

The Texas vegetable industry has adopted Industry Strategic Planning and Coordination (ISPC), a relatively new, innovative approach with substantial potential to improve the performance of commodity industries (Hall, 1999). The ISPC approach brings firms and industry together to strategically plan to take selected coordinated actions to improve the industry's competitiveness and economic viability. Integration of southern Florida producers into a cohesive marketing program could be accomplished through commodity group organization, budget development and allocation, structural design of marketing plans, discussion of expected probabilities of outcomes in advance of expenditures, and thorough analyses of actual results within an established timeframe. An alternative example is California's commodity marketing programs, each

Table 11. Top 10 consumer programs as percent of states' use.

| Top 10 consumer programs     | Percent of states using program |
|------------------------------|---------------------------------|
| Statistics/facts             | 83%                             |
| Fairs                        | 77%                             |
| Logos/quality seal           | 71%                             |
| Farmers markets              | 71%                             |
| Directories                  | 54%                             |
| Buyers guides                | 50%                             |
| Ag in the Classroom          | 46%                             |
| Literature                   | 40%                             |
| Food & agricultural festival | 38%                             |
| Point of purchase materials  | 33%                             |

handled through 51 individual marketing boards that self-regulate aspects of the marketing and production decisions. These boards handle all activities such as producer assistance, marketing efforts, enhancement of sales opportunities with potential buyers, and competition for state agricultural promotional funds in support of proposed marketing plans.

Additional value from the material gathered in this research may be derived from within individual states' programs that most closely resemble projects applicable to crop types with similar target market demographics. Successful programs initiated and maintained in neighboring states were viewed by marketing department directors and legislatures as feasible options for their own state, thus influencing the potential number of dollars allocated to that marketing tool. While another region's success is an excellent indication of the value of that particular tool, marketing groups need to place a priority on analysis of any qualitative or quantitative data available before adopting that market program—the logo program is an excellent example of the wide fluctuations in results across states. Established in 1984 with an initial budget of \$325,000, the 'Jersey Fresh' logo program earned a budget commitment of \$1.2 million annually in 2000 based on the positive economic impact discovered during analysis of effects on consumptions that suggested the Jersey Fresh program had expanded markets for New Jersey-grown products by 5.5% (Govindasamy, 2000). Replication attempts of the well-known Jersey Fresh logo program are evidenced by the presence of logo programs established in 30 additional states. Many have been unsuccessful—one respondent claims that inclusion of non-agricultural goods due to state budget constraints has diluted the recognition its logo program would have otherwise received, and the TexFresh program was abandoned in the early 90s in favor of "production-related research" (Hall, 1999).

Florida's diverse fruit and vegetable production incorporates a spectrum of traditional, specialty, exotic, gourmet, kosher, and organic varieties that appeal to an equally broad and wide-ranging population of existing and potential consumers. While a national generic promotion program will meet many consumer-reaching objectives, officials at USDA Agricultural Marketing Service (AMS) estimate implementation costs to an industry greater than \$80,000, and the addition of nationally televised marketing campaign brings that minimum to a \$20 million requirement (Sterns, 2000). A non-monetary complication of generic branding involves the free-rider problem, where grower coalitions, subscribing to the belief that they are better off outside the group effort, take advantage of the results of increased consumer awareness of the product while refusing to contribute. Produce grower strategies need to identify consumers considered more likely to purchase local products, and target market segments with tools proven effective for particular segments.

The 2000 United States census highlights the dramatic increase in the number of homes wired to the Internet; nearly 42% of all households able to access the Web, up from 18% just 3 years earlier, with over half of the country's 105 million households owning computers. Sixty four percent of adults use the Internet for information sources, and 68% of children use it for school research ("Census," 2001). All studies point to the fact that, given the chance, consumers will shop online, although the real growth in this marketplace will occur in the future, as computer-savvy teens take over food shopping duties (Progressive Grocer Annual Report, 2001). A

review of sites selling gift fruit directly from farm to consumer revealed that firms should offer both fresh and processed items packaged in a variety of attractive ways, and maximize customer satisfaction by offering online ordering capabilities, toll free ordering access, and real time customer service (Degner, 2000). Business to business marketplaces in the produce industry are also gaining momentum, presenting benefits such as simplifying contacts, minimizing inventory and storage requirements, and reducing the large numbers of human resources required to arrange and manage sales of highly perishable products by utilizing various types of auction clearinghouses.

Another example of the trend toward alternative food delivery runs contrary to the convenience and speed offered by the Internet, and that is the 63% growth in farmers' markets from 1994 to 2000 (National Farmers Market Directory, 2001) to reach 2800 markets with estimated produce sales of \$1.1 billion annually. The USDA claims these markets, with locations and maps listed on websites of the states' agriculture departments, allow consumers to socialize with farmers, purchase fresher produce at lower prices, support and revitalize local economies, and ultimately work to provide another sales channel for small growers (Natural Foods Merchandiser, 1997). Several resources are available to farmers interested in pursuing direct consumer relationships, including: the North American Farmers' Direct Marketing Association (NAFDMA, 2001), which offers opportunities for education, networking, and fellowship to its member producers; AMS's Farmers' Markets Facts website (AMS, 2001), which describes the nationwide impact of farmers' markets (listing statistics), provides the National Farmers' Market Directory, and recounts events of the first National Farmers' Market Week August 5-11, 2001; and the USDA's Farmer Direct Marketing Bibliography (Klotz, 2001), which offer sources for reference.

In summary, this research depicts several of the challenges inherent in qualitative research. The subjective material offered by survey respondents is not conclusive and carries a fair burden of bias, making a consensus difficult to achieve. While this study portrays a thorough examination of accessible marketing tools, the need for further in-depth quantitative analyses of state-funded marketing tools is evident and would allow essential knowledge of effective marketing programs to be conveyed to produce growers.

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